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09:679,514	10/06/2000	Hung-Jen Hsu	TS2000-166	8850
28112	7590	01/21/2004	EXAMINER	
GEORGE O. SAILE & ASSOCIATES 28 DAVIS AVENUE POUGHKEEPSIE, NY 12603			KEBEDE, BROOK	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/679,514

Applicant(s)

HSU ET AL.

Examiner

Brook Kebede

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji et al. (JP/05160019) in view of Applicants' admitted prior art (Figs. 1-4 and Description of the Prior Art Pages 1-6).

*The rejection that was mailed on August 8, 2003 is maintained and repeated herein below as of record.*

Re claim 1, Tsuji et al. disclose a method to form passivation openings that a prevent protective tape residue in the manufacture of an integrated circuit device comprising: providing a semiconductor substrate (3); depositing a passivation layer (2) overlying said semiconductor substrate (3); depositing an organic photoresist layer (1) overlying said passivation layer;

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patterning said organic photoresist layer (1) to expose said passivation layer (2) in areas where said passivation openings are planned (Drawing 1(a), (1b), 2(a) and 2(b)); reflowing said organic photoresist layer (1) to create gradually sloping sidewalls on said organic photoresist layer (see Drawing 1(c) and 2(b)); thereafter etching through said passivation layer (2) not covered by organic photoresist layer (1) to form said passivation openings with gradually sloping sidewalls (see Drawing 3(b)) wherein said etching does not etch said organic photoresist layer; stripping away said organic photoresist layer (1) (see Tsuji et al. Drawing 1-3).

However, Tsuji et al. do not disclose applying a protective tape overlying said passivation layer and said passivation openings; and removing said protective tape wherein said gradually sloping sidewalls on said passivation openings allow said protective tape to be completely removed without leaving an adhesive residue in the manufacture of the integrated circuit device.

Applicants' admitted prior art discloses applying a protective tape (40 44) overlying said passivation layer (28) and said passivation opening (not labeled); and removing said protective tape (40 44). As the admitted prior art teaches the tape is utilized to protect the wafer from damage during the back grinding operation (see Figs. 1-4; and see Description of prior art Page 4, lines 1-6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant(s) claimed invention was made to have provided Tsuji et al. reference with applying a protective tape overlying said passivation layer and said passivation openings; and removing said protective tape as taught Applicants' admitted prior art reference because the protective tapes would have been used to protect the substrate during back grinding.

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Re claim 2, as applied to claim 1 above, both Tsuji et al. and Applicants' admitted prior art in combination disclose all the claimed limitations including the limitation wherein said passivation layer comprises silicon nitride

Re claim 3, as applied to claim 1 above, both Tsuji et al. and Applicants' admitted prior art teach all the claimed limitations including the limitation wherein said passivation layer is deposited to at certain thickness. Furthermore, the thickness range of the passivation layer between about 3,000 Angstroms and 15,000 Angstroms would have been achieved within the level of ordinary skill in the art by routine optimization. Generally, differences in concentration or temperature thickness of layer will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature or the desired thickness is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Furthermore, the specification contains no disclosure of either the critical nature of the claimed thickness range or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. See *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d, 1936 (Fed. Cir. 1990).

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Re claim 4, as applied to claim 1 above, both Tsuji et al. and Applicants' admitted prior art teach all the claimed limitations including the limitation depositing of organic photoresist layer is deposited at certain thickness. Furthermore, the thickness range of the passivation layer between about 10,000 Angstroms and 50,000 Angstroms would have been achieved within the level of ordinary skill in the art by routine optimization. Generally, differences in concentration or temperature thickness of layer will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature or the desired thickness is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Furthermore, the specification contains no disclosure of either the critical nature of the claimed thickness range or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. See *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d, 1936 (Fed. Cir. 1990).

Re claim 5, as applied to claim 1 above, both Tsuji et al. and Applicants' admitted prior art in combination disclose all the claimed limitations including the limitation wherein said step of reflowing said organic photoresist layer is performed at a temperature of between about 100 –

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150 °C) (i.e., 140-150 °C is within the claimed limitation range of 140 degrees C and 200 degrees C) at predetermined duration.

Re claim 6, as applied to claim 1 above, both Tsuji et al. and Applicants' admitted prior art in combination disclose wherein said step of etching through said passivation layer comprises a dry plasma etching process using an etching chemistry comprising CF<sub>4</sub> and O<sub>2</sub> gases (see Example).

Re claim 7, as applied to claim 1 above, both Tsuji et al. and Applicants' admitted prior art in combination disclose wherein said step of removing said protective tape is by use of a peeling tape.

Re claim 8, as applied to claim 1 above, both Tsuji et al. and Applicants' admitted prior art in combination disclose grinding the backside of said semiconductor substrate after said step of applying said protective tape and prior to said step of removing said protective tape.

Re claim 9, Tsuji et al. disclose a method to form bonding pad openings that prevent tape residue in the manufacture of an integrated circuit device comprising: providing a semiconductor substrate (3); depositing a passivation layer (2) overlying said semiconductor substrate (3); depositing an organic photoresist layer (1) overlying said passivation layer (1); patterning said organic photoresist layer (1) to expose said passivation layer in areas where passivation openings are planned; reflowing said organic photoresist layer (1) to create gradually sloping sidewalls on said organic photoresist layer (1) at a temperature of between about 100 – 150 °C) (i.e., 140-150 °C is within the claimed limitation range of 140 degrees C and 200 degrees C) at predetermined duration; etching through said passivation layer (2) not covered by said organic photoresist layer

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to form said passivation openings with gradually sloping sidewalls; stripping away said organic photoresist layer (1) (see Drawing 1-3).

However, Tsuji et al. do not disclose applying a protective tape overlying said passivation layer and said passivation openings; and removing said protective tape wherein said gradually sloping sidewalls on said passivation openings allow said protective tape to be completely removed without leaving if adhesive residue in the manufacture of the integrated circuit device.

Applicants' admitted prior art discloses applying a protective tape (40 44) overlying said passivation layer (28) and said passivation opening (not labeled) ; and removing said protective tape (40 44). As the admitted prior art teaches the tape is utilized to protect the wafer from damage during the back grinding operation (see Figs. 1-4; and see Description of prior art Page 4, lines 1-6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant(s) claimed invention was made to have provided Tsuji et al. reference with applying a protective tape overlying said passivation layer and said passivation openings; and removing said protective tape as taught Applicants' admitted prior art reference because the protective tapes would have been used to protect the substrate during back grinding.

Re claim 10, as applied to claim 9 above, both Tsuji et al. and Applicants' admitted prior art in combination disclose all the claimed limitations including the limitation wherein said passivation layer comprises silicon nitride

Re claim 11, as applied to claim 9 above, both Tsuji et al. and Applicants' admitted prior art teach all the claimed limitations including the limitation wherein said passivation layer is deposited to at certain thickness. Furthermore, the thickness range of the passivation layer



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between about 3,000 Angstroms and 15,000 Angstroms would have been achieved within the level of ordinary skill in the art by routine optimization. Generally, differences in concentration or temperature thickness of layer will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature or the desired thickness is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Furthermore, the specification contains no disclosure of either the critical nature of the claimed thickness range or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. See *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1936 (Fed. Cir. 1990).

Re claim 12, as applied to claim 9 above, both Tsuji et al. and Applicants' admitted prior art teach all the claimed limitations including the limitation depositing of organic photoresist layer is deposited at certain thickness. Furthermore, the thickness range of the passivation layer between about 10,000 Angstroms and 50,000 Angstroms would have been achieved within the level of ordinary skill in the art by routine optimization. Generally, differences in concentration or temperature thickness of layer will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or

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temperature or the desired thickness is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Furthermore, the specification contains no disclosure of either the critical nature of the claimed thickness range or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. See *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d, 1936 (Fed. Cir. 1990).

Re claim 13, as applied to claim 9 above, both Tsuji et al. and Applicants’ admitted prior art in combination disclose wherein said step of removing said protective tape is by use of a peeling tape

Re claim 14, as applied to claim 9 above, both Tsuji et al. and Applicants’ admitted prior art in combination disclose wherein said step of etching through said passivation layer comprises a dry plasma etching process using an etching chemistry comprising CF<sub>4</sub> and O<sub>2</sub> gases (see Example).

Re claim 15, as applied to claim 9 above, both Tsuji et al. and Applicants’ admitted prior art in combination disclose grinding the backside of said semiconductor substrate after said step of applying said protective tape and prior to said step of removing said protective tape.

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3. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted prior art (Figs. 1-4) in view of over Tsuji et al. (JP/05160019).

*The rejection that was mailed on August 8, 2003 is maintained and repeated herein below as of record.*

Re claim 16, Applicants' admitted prior art teaches a method to form passivation openings that prevent protective tape residue in the manufacture of an integrated circuit device comprising: providing a semiconductor substrate (20); providing a metal layer (24) overlaying said semiconductor substrate (20); depositing a passivation layer (28) overlying said metal layer (24); depositing an organic photoresist layer (32) overlying said passivation layer (28); patterning said organic photoresist layer (32) to expose said passivation layer (28) in areas where said passivation openings (not labeled) are planned; etching through said passivation layer (28) not covered by said organic photoresist layer; stripping away said organic photoresist layer (32); applying a protective tape (40 44) overlying said passivation layer (28) and said passivation openings (not labeled); and removing said protective tape (40 44).

However, Applicants' admitted prior art does not teach reflowing said organic photoresist layer to create gradually sloping sidewalk on said organic photoresist layer wherein said reflowing is performed at a temperature of between 140 degrees C and 200 degrees C for a duration of between 3 minutes and 15 minutes; said organic photoresist layer to create gradually sloping sidewalls on said organic photoresist layer; etching through said passivation layer not covered by said organic photoresist layer to form said passivation openings with gradually sloping sidewalls; wherein said gradually sloping sidewalls on said passivation openings allow

said protective tape to be completely removed without leaving adhesive residue in the manufacture of the integrated circuit device.

Tsuji et al. disclose a method of fabricating an integrated circuit device comprising: providing a semiconductor substrate (3); depositing a passivation layer (2) overlying said semiconductor substrate (3); depositing an organic photoresist layer (1) overlying said passivation layer (1); patterning said organic photoresist layer (1) to expose said passivation layer in areas where passivation openings are planned; reflowing said organic photoresist layer (1) to create gradually sloping sidewalls on said organic photoresist layer (1) at a temperature of between about 100 – 150 °C) (i.e., 140-150 °C is within the claimed limitation range of 140 degrees C and 200 degrees C) at predetermined duration; etching through said passivation layer (2) not covered by said organic photoresist layer to form said passivation openings with gradually sloping sidewalls; stripping away said organic photoresist layer (1) (see Drawing 1-3).

Given the Tsuji et al. teachings one of ordinary skill would have motivated to reflowing said organic photoresist layer to create gradually sloping sidewalls on said organic photoresist layer; etching through said passivation layer not covered by said organic photoresist layer in order to form said passivation openings with gradually sloping sidewalls (see Drawing 1-3)

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant(s) claimed invention was made to have provided Applicants' admitted prior art reference with method of reflowing of organic photoresist layer to create gradually sloping sidewalls on the organic photoresist layer and etching through the passivation layer not covered by said organic photoresist layer to form said passivation openings with gradually sloping sidewalls as taught by Tsuji et al. because the method would have provided an etching profile

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of gradually slopping sidewalls of the passivation layer that would have been utilized in the proceeding process.

Re claim 17, as applied to claim 16 above, both Applicants' admitted prior art and Tsuji et al. teach all the claimed limitations including the limitation wherein said passivation layer is deposited to at certain thickness. Furthermore, the thickness range of the passivation layer between about 3,000 Angstroms and 15,000 Angstroms would have been achieved within the level of ordinary skill in the art by routine optimization. Generally, differences in concentration or temperature thickness of layer will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature or the desired thickness is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Furthermore, the specification contains no disclosure of either the critical nature of the claimed thickness range or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. See *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d, 1936 (Fed. Cir. 1990).

Re claim 18, as applied to claim 16 above, both Applicants' admitted prior art and Tsuji et al. teach all the claimed limitations including the limitation depositing of organic photoresist

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layer is deposited at certain thickness. Furthermore, the thickness range of the passivation layer between about 10,000 Angstroms and 50,000 Angstroms would have been achieved within the level of ordinary skill in the art by routine optimization. Generally, differences in concentration or temperature thickness of layer will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature or the desired thickness is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Furthermore, the specification contains no disclosure of either the critical nature of the claimed thickness range or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. See *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d, 1936 (Fed. Cir. 1990).

Re claim 19, as applied to claim 16 above, both Applicants' admitted prior art and Tsuji et al. in combination disclose grinding the backside of said semiconductor substrate after said step of applying said protective tape and prior to said step of removing said protective tape.

Re claim 20, as applied to claim 16 above, both Applicants' admitted prior art and Tsuji et al. in combination disclose including the limitation wherein said step of etching through said

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passivation layer comprises a dry plasma etching process using an etching chemistry comprising  $\text{CF}_4$  and  $\text{O}_2$  gases.

***Response to Arguments***

4. Applicants' arguments filed on November 12, 2003 have been fully considered but they are not persuasive.

Applicants argued that "Applicant agrees that Tsuji et al describes a method to shape the sidewalls of a patterned resist film. However, there appears to be no motivation to combine the teachings of Tsuji et al with Applicant's Admitted Prior Art (AAPA). Tsuji et al does not teach or suggest a motivation to add steps useful for backside grinding as shown in Claim 1..."

In response to the Applicants' argument, the Examiner respectfully submits that such an argument is not commensurate with the scope of the claims, in particular, as stated above. The Examiner respectfully submits that the combination of Tsuji et al. and Applicants' admitted prior art teach all the claimed limitations as applied herein above.

In response to Applicants' argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the admitted prior art teaches the tape is utilized to protect the wafer from damage during the back grinding operation (see Figs. 1-4; and see Description of prior art Page 4, lines 1-6). That was the motivation to combine.

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Furthermore, Applicants' arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Therefore, the *prima facie* case of obviousness has been met and the rejection under 35 U.S.C. § 103 is deemed proper.

### *Conclusion*

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### *Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (703) 306-4511. **After February 4, 2004, the Examiner should be contacted at (571) 272-1862.** The examiner can normally be reached on 8-5 Monday to Friday.



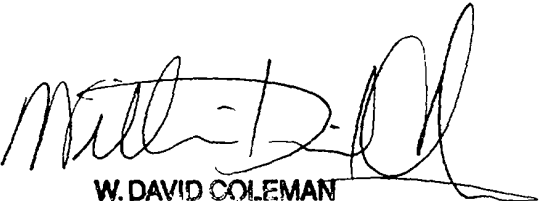
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

BK

January 18, 2004



W. DAVID COLEMAN  
PRIMARY EXAMINER